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Oil: What's Left out There

A new study delays doomsday, but there is still a crisis

The visions of an imminent energy Armageddon that seemed so plausible right after the 1973 Arab oil embargo have gradually faded, but the serious questions remain: How much oil does the world have left? When will it run out?

Firm answers are difficult to come by; witness the Central Intelligence Agency's forays into the slippery field of oil forecasting. In his drive for a conservation-oriented energy program early last year, President Carter leaned heavily on a CIA forecast for his ominous prediction that depletion of all of the proven reserves "in the entire world" could begin by the end of the 1980s. Now comes another CIA report, this one prepared by Richard Nehring, a policy analyst for the Rand Corp., which concludes that doomsday is considerably further off.

At present rates of consumption, the Rand researcher says, there is enough oil around the world that is recoverable through conventional drilling to last for 60 to 90 years. If demand does increase and supplies are being used up more quickly, Rand experts believe that energy requirements could still be met through conservation measures and the use of special techniques to squeeze more oil out of existing reserves.

The differences between the two CIA studies illustrate the difficulties that oil forecasters face. The earlier report went wrong because it made dubious predictions that the Soviet Union would soon become a major oil importer, placing further strains on the world's resources. In fact, the Russians seem more likely to add to the world's reserves than deplete them.

Since the early talk about the crunch of the 1980s, the headlines have been full of seemingly good news about oil. Exploratory drilling activity has risen by 30% since the 1973 embargo. In the past year or so, oil has begun to flow from Alaska's North Slope, North Sea production has increased, and promising indications of oil and natural gas have been found in the Baltimore Canyon off the U.S.'s East Coast. Oil companies have also been exploring what are thought to be big deposits along China's coast. And in Venezuela, development is continuing in the area known as the Orinoco Oil Belt, although the oil is thick and heavy. New exploration is also under way in the Arctic, Argentina, Brazil and the Sudan. In Asia, Malaysia and India may soon join Indonesia as sizable oil producers.

Discoveries in the southeast region of Mexico particularly excite U.S. oilmen. The country has recently revised its estimates of proven reserves* from 14 billion bbl. to 20 billion bbl., which would put it in a league with Venezuela, and officials are happily suggesting that the total may be as high as 200 billion bbl. If so, that would put Mexico in a class with the present leading oil country, Saudi Arabia, which has proven reserves in the area of 180 billion bbl.

Another sanguine sign: partly because conservation efforts (especially by industry) have had more effect than almost anyone originally expected, the annual growth in world oil consumption has been held to about 1% in the five years since the embargo, compared with the 5% to 7% increases in the extravagant days before. As a result, the OPEC countries have been holding their production well below full capacity; even so, they are preparing to end their two-year price freeze with an increase (perhaps 5%) next year.

Understandably, people are confused about the oil situation. While the President continues to try to get his stalled energy program through Congress, and the cost of imported oil—which now supplies 42% of U.S. needs, vs. 35% in 1973—continues to increase the nation's balance of payments deficit, critics like Ralph Nader scoff that "the world is drowning in oil." Indeed, the experts themselves are increasingly divided into two camps.

Among the energy optimists, the rosiest view is offered by Dutch Economist Peter Odell, who has concluded that world oil reserves, including deposits in deep sea areas and the polar regions, stand at 4,500 billion bbl., or seven times current proven reserves. That is also well above the Rand Corp.'s estimate, which puts the reserves within a range of 1,700 billion bbl. to 2,300 billion bbl. Odell argues that the size of some known fields has been greatly underrated, notably the North Sea and Orinoco Oil Belt, whose resources he believes are even "greater than those of Saudi Arabia."

Another oil optimist, Bernardo Grossling, a researcher with the U.S. Geological Survey, puts the range of recoverable oil at anywhere from 2,500 billion bbl. to 6,000 billion bbl. His argument: the potential of countries in Asia, Africa and Latin America is "staggering."

But others sharply dispute the optimists. Rand's Nehring argues that for all the recent exploratory activity, the world's reserves can really be significantly increased only by additional recovery from known fields and by further discoveries of "supergiant" fields containing at least 5 billion bbl. of oil. The 33 known fields in this class account for more than half the world's oil reserves, but discoveries of new supergiants have dropped off. In the 1970s the oil companies have turned up only two fields with such potential: in Mexico and on the Iraq-Iran border.

The Rand Corp.'s vision of ample reserves for some decades ahead but big trouble after that is echoed by many other researchers. Trying a novel approach to assessing the world's reserves, Pierre Desprairies, head of the French Petroleum Institute, recently polled 28 leading oil companies and individual experts on how much oil they thought was economically recoverable at a cost of \$20 per bbl., which is about \$6 above the going price. The consensus, he reported, was that "the reservoir of oil is large and full"—about 2,000 billion bbl. But there was also general concern about the declining rate of major new discoveries. Says Desprairies: "The big fields have been discovered."

The optimists would reply that the real turns on that are scarcely all in yet. All but 800,000 of the 3.2 million wells drilled to date have been sunk in just one country: the U.S. As recently as 1976, nearly 90% of all drilling activity was still concentrated in the U.S. and Canada, even though these nations account for only 14% of the world's estimated reserves. While the debate between the oil optimists and pessimists remains unresolved, it is clear that there is much more room for new exploration.

*In describing oil reserves, "proven" is one of the few universally accepted definitions. It generally refers to the minimum amount of oil that can be recovered from known reservoirs under existing economic and operating conditions.